

ABSTRACT

In the MPEG2 Advanced Audio Coder (AAC) standard, Temporal Noise Shaping (TNS) is currently implemented by defining one filter for a given frequency band, and then switching to another filter for the adjacent frequency band when the signal structure in the adjacent band is different than the one in the previous band. The AAC standard limits the number of filters used to either one filter for a “short” block or three filters for a “long” block. In cases where the need for additional filters is present but the limit of permissible filters has been reached, the remaining frequency spectra are simply not covered by TNS. This current practice is not an effective way of deploying TNS filters for most audio signals. We propose two solutions to deploy TNS filters in order to get the entire spectrum of the signal into TNS. The first method involves a filter bridging technique and complies with the current AAC standard. The second method involves a filter clustering technique. Although the second method is both more efficient and accurate in capturing the temporal structure of the time signal, it is not AAC standard compliant. Thus, a new syntax for packing filter information derived using the second method for transmission to a receiver is also outlined.